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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,138	09/30/2003	Risto Olavi Harjula	7212.3001.002	5711

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EXAMINER	
CINTINS, IVARS C	
ART UNIT	**PAPER NUMBER**
1724	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,138	HARJULA ET AL.	
	Examiner	Art Unit	
	Ivars C. Cintins	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4,7,9,10 and 17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4,7,9,10 and 17-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/674,596.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Bedard (U.S. Patent No. 5,858,243). Bedard discloses extracting metal ions (see col. 5, lines 29-32) from an aqueous solution (see col. 1, lines 14-15) with a silicate material (see col. 2, lines 49 and 53) containing niobium, tantalum, antimony or mixtures thereof (see col. 2, lines 59-61); and one of ordinary skill in the fluid purification art would, on reading the Bedard patent, at once envisage a mixture of antimony and niobium or tantalum as the metal component of the disclosed silicate material. Also, since Applicant has not shown that the presence of titanium in the recited material would materially change the characteristics of Applicant's invention, the "consisting essentially of" language recited in line 2 of claim 22 has been construed as equivalent to comprising.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4, 17-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedard. Bedard discloses removing contaminant metal ions of the type recited (see col. 5, lines 29-32) from an aqueous stream (see col. 1, lines 14-15) with a crystalline silicate material (see

col. 2, lines 49 and 53) containing niobium, tantalum, antimony or mixtures thereof (see col. 2, lines 59-61). This reference further suggests the ratio recited in claim 2, as well as the concentration recited in claims 3 and 4 (see col. 2, lines 61-63). Accordingly, this reference discloses the claimed invention with the exception of the exact ingredients selected to prepare the reference treatment material. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select a combination of antimony with niobium or tantalum as constituent "M" in the reference material, since this reference clearly suggests such a mixture of elements (col. 2, lines 59-61); and upon such a selection being made, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a silicon compound, an antimony compound, and a compound of niobium or tantalum to prepare this reference material, since this reference material (i.e. crystalline silicate) clearly requires the presence of silicon, antimony and niobium or tantalum. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a conventional catalyst (acid) in the preparation of the above noted material, in order to facilitate its formation.

Claims 7, 9, 10, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedard as applied above, and further in view of Dietz et al. (U.S. Patent No. 5,888,398). Bedard discloses the claimed invention with the exception of the recited pH for the aqueous stream, the removal of radioactive metal ions, and the presence of background ions in the stream undergoing treatment. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat a nuclear waste stream of the type recited (i.e. containing radioactive cesium and background ions such as sodium and calcium) having a pH of less than 7 by the

process of Bedard (see col. 1, lines 14-15), since Dietz et al. teaches (see col. 1, lines 22-27) that such nuclear waste streams are typically acidic; and further teaches (see col. 6, lines 3-6) that such streams contain background ions such as sodium and calcium.

Applicant's arguments filed November 11, 2005 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that titanium must always be present in the material of Bedard, and that germanium (Ge) may also be present in this reference material, whereas the current claims do not include the presence of measurable and significant amounts of titanium or Ge. Accordingly, since Applicant contends that the additional materials in the prior art are excluded by the recitation of "consisting essentially of," Applicant has the burden of showing that the introduction of these additional components would materially change the characteristics of Applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989). Absent such a showing, "consisting essentially of" will be construed as equivalent to "comprising" (*PPG*, 156 F.3d at 1355, 48 USPQ2d at 1355). See M.P.E.P. § 2111.03. Since Applicant has not provided the above noted showing, the term ""consisting essentially of," recited in claims 17 and 22, has been has been construed as equivalent to comprising.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ivars Cintins

Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
January 22, 2006